

What is claimed is:

1. A rear projection screen for use with a projection lens which has an exit pupil, said screen having a light entering side and a light exiting side and comprising in order from said light entering side to said light exiting side:

- (a) a Fresnel structure;
- (b) a lenslet array; and
- (c) an opaque layer comprising a plurality of holes, said holes being at locations which correspond to the images of the exit pupil formed by the combination of the Fresnel structure and the lenslet array.

2. The screen of Claim 1 wherein the lenslet array comprises elements which have a square aperture.

3. The screen of Claim 2 wherein, in viewer space, the screen has a half field of view  $\alpha$  given by:

$$\alpha = \tan^{-1}(0.5 \cdot CA/f)$$

where CA and f are, respectively, the clear aperture and the focal length of the elements.

4. The screen of Claim 1 wherein the lenslet array comprises elements which have a rectangular aperture.

5. The screen of Claim 4 wherein, in viewer space, the screen has a vertical half field of view  $\alpha_v$  given by:

$$\alpha_v = \tan^{-1}(0.5 \cdot CA_v/f)$$

and a horizontal half field of view  $\alpha_h$  given by:

$$\alpha_h = \tan^{-1}(0.5 \cdot CA_h/f)$$

where  $CA_v$ ,  $CA_h$ , and f are, respectively, the vertical clear aperture, the horizontal clear aperture, and the focal length of the elements.

6. The screen of Claim 1 wherein the lenslet array comprises anamorphic elements.

7. The screen of Claim 6 wherein, in viewer space, the screen has a vertical half field of view  $\alpha_v$  given by:

$$\alpha_v = \tan^{-1}(0.5 \cdot CA/f_v)$$

